QUALITY CONTROL (QC) AND
INDEPENDENT TECHNICAL REVIEW (ITR) PLAN

1.0 PURPOSE

This review plan presents the process that assures quality products for the Jamaica Bay, Marine Park and Plumb Beach, New York feasibility study. This QC and ITR plan defines the responsibilities and roles of each member on the study and technical review team.

The product to be reviewed by the technical review team is the Jamaica Bay, Marine Park and Plumb Beach, New York interim feasibility report. Under the provisions of new U.S. Army Corps of Engineers (USACE) policy, as detailed in EC1105-2-408 dated May 31, 2005, the ITR will be conducted by specialists from organizations outside of the district responsible for the study. ITR will be conducted for all decision documents and will be independent of the technical production of the project. This QC and ITR plan is, by reference, a part of the project management plan for this master plan.

2.0 APPLICABILITY

This document provides the quality control plan for the Jamaica Bay, Marine Park and Plumb Beach, New York interim feasibility report. It identifies quality control processes and independent technical review for all work to be conducted under this study authority, including in-house, sponsor and contract work.

3.0 REFERENCES

EC 1105-2-408 “Peer Review of Decision Documents” (May 31, 2005)
EC 1105-2-407 “Planning Models Improvement Program: Model Certification” (May 31, 2005)
EC 1105-2-409 “Planning in a Collaborative Environment” (May 31, 2005)
ER 1105-2-100 “Planning Guidance Notebook and Appendices”

4.0 GENERAL PROJECT DESCRIPTION

Jamaica Bay lies within the Southern Long Island watershed (United States Geological Survey (USGS) Hydrologic Unit 2030202). Jamaica Bay, situated within the Boroughs of Brooklyn and Queens, New York City, is about 8 miles long, 4 miles wide, covers 26 square miles and opens into the Atlantic Ocean via Rockaway Inlet. Jamaica Bay opens to the Atlantic Ocean via Rockaway Inlet, which is about 17 miles by water southeast of the Battery. Jamaica Bay lies in an urban area and is connected to the lower bay of New York Harbor. The bay is located approximately 22 miles from midtown Manhattan in New York City and lies between the city’s two most populated boroughs, Brooklyn and Queens. The bay is surrounded by salt marshes, disturbed upland ecosystems, parks, landfills, residential communities, commercial and retail facilities, parkways and major roadways, and public transportation, including the John F. Kennedy International Airport.

A Beach Erosion Control and Hurricane Protection project for the Atlantic Coast of New York City between East Rockaway Inlet and Rockaway Inlet and Jamaica Bay was authorized by the Flood Control Act (1965). There is no existing Federal project for storm damage reduction at the Bay shoreline areas. There is, however, an existing Federally maintained navigation project for Jamaica Bay. Over the past century, the Bay's fragile ecosystem has been degraded through human encroachment and increased urbanization. Combined Sewer Outfall (CSO) discharges have also exacerbated these effects. In effect, there are potential threats to human health based on a number of degradation factors, and valuable ecosystem services to attain environmental quality, social well being and economic benefits are being adversely impacted.

A reconnaissance study for Jamaica Bay, Marine Park and Plumb Beach, NY was authorized by a resolution of the Committee on Public Works and Transportation of the United States House of Representatives adopted 1 August 1990 to determine the feasibility of improvements for beach erosion control, hurricane protection and environmental improvements in Jamaica Bay, including environmentally sensitive areas along Plumb Beach. The reconnaissance report was completed in January 1994. It recommended that a cost-shared feasibility study be undertaken to investigate restoration of the Bay environment, including its wetland and aquatic habitats and the water quality that supports them. The New York City Department of Environmental Protection (NYCDEP) is the Non-Federal sponsor for the feasibility study. A Feasibility Cost Sharing Agreement (FCSA) was executed between the Corps of Engineers and the NYCDEP in February 1996 and the Environmental Restoration feasibility study was initiated. Restoration sites were selected in conjunction with input from environmental resource agencies, the Harbor Estuary Program (HEP) and the local sponsor.

The feasibility study restoration alternatives were formulated in accord with Planning Guidance and Collaborative Planning Guidance. Restoration plans outlined in the draft feasibility report emphasize ecosystem restoration activities that involve modification of hydrology or aquatic substrates and are most likely to be appropriate for Corps initiatives. Habitats targeted include wetlands, riparian and other aquatic systems, but also include adjacent maritime forest and grasslands as appropriate, totaling about 550 acres across eight project sites. The first costs for the eight sites are as follows: Dead Horse Bay $56,162,210; Paerdegat Basin $54,172,950; Fresh Creek $28,306,159, Spring Creek $61,794,675; Hawtree Point $663,931; Bayswater State Park $3,185,055, Dubos Point $6,428,073 and Brant Point $5,508,902.

The non-Federal sponsor (NYCDEP) is fully supportive of measures to restore the degraded ecosystem of Jamaica Bay. New York State Department of Environmental Conservation (NYSDEC) has also committed to using funds from the Jamaica Bay Damages account it manages to assist in the construction of several of the recommended sites. Similarly, the New York City Department of Parks and Recreation (NYCDPR) has expressed an interest in partnering on post-feasibility activities related to their own lands in the bay. In addition, the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), National Park Service (NPS), and the U.S. Environmental Protection Agency (USEPA) have been involved in the study and support the project. Furthermore, the project compliments the goals and efforts of national programs such as the New York/New Jersey Harbor Estuary Program which is managed through the USEPA to conserve and restore estuaries of national significance, and the North American Waterfowl Management Plan, an international agreement signed in 1986 that seeks to increase waterfowl populations through increasing and restoring wetland habitat.

In combination with New York City's ongoing combined sewer overflow abatement projects, waste treatment plant upgrades, and landfill remediation to improve the overall water quality of Jamaica Bay, and the city's recently enacted law requiring the development and implementation for a comprehensive plan to protect and restore the bay and its habitats, the Jamaica Bay project will be positioned at a unique opportunity in time to make a substantial contribution to significantly improving the environmental quality of this critically acclaimed and ecologically important ecosystem.

5.0 REVIEW REQUIREMENTS

Initial Quality Control (QC) review has been handled within the Section or Branch performing the work. Additional QC will be performed by the Project Delivery Team (PDT) during the course of completing the Feasibility Study. The detailed checks of computations and methodology should be performed at the District level, and the processes for this level of review are well established. Pursuant to EC 1105-2-408, item 2 c (2), Models used in the preparation of decision documents covered by this Circular will be reviewed in accordance with EC 1105-2-407, Planning Models Improvement Program: Model Certification. The assessment model utilized was EPW, a standard, accepted model; therefore it is not anticipated that additional certification measures will be necessary.

Pursuant to EC 1105-2-408, the Feasibility Report and EA will need a full ITR team endorsed by the Planning Center of Expertise (PCX) for Environmental Restoration (National Ecosystem Planning) Projects. NAN proposed the use of New England District Regional Technical Experts for the Planning ITR effort, which MVD approved in their memo dated 21 June 2007. Dr. David Vigh (CEMVD-RB-T) and Ms. Jodi Staebell (CEMVR-PM-F) will validate the assignment of other members of the team, including Engineering and Real Estate. It is recommended that the ITR be handled entirely within USACE, as the scope and level of technical complexity do not warrant an External Peer Review (EPR), based upon the initial Risk Screening Process conducted by the PDT noted in Section 9. The study is not controversial or precedent setting, nor does it have highly significant national importance so as to warrant risk abatement external peer review. As a result, the ITR will focus on:

- Review of the planning process and criteria applied.
- Review of the methods of preliminary analysis and design.
- Compliance with authority and NEPA requirements.
- Completeness of preliminary support documents.
- Spot checks for interdisciplinary coordination.

6.0 REVIEW PROCESS

The ITR review process has commenced, however additional ITR members must be assigned for Engineering and Real Estate disciplines. The review will cover key formulation and benefit and cost assessment areas. Major review process milestones are listed below:

- Draft Report Review
- Final Report Review

7.0 REVIEW COST

The final cost of the ITR is to be determined between the team and the PCX. It is assumed that any remaining documents to be reviewed will be transmitted electronically via the ftp site. Comments will be made and addressed in Dr. Checks. It is also assumed that the external ITR team will be working virtually. Only under extreme circumstances should the external ITR team, or a representative of that team, be required to physically attend team or milestone meetings. The team should participate in all remaining milestone meetings; however, via conference call or video teleconference as warranted to improve efficiency.

8.0 REVIEW SCHEDULE

Note that since the commencement of this study preceded the requirement for PCX involvement and development of this review plan, the review schedule below is tailored to work remaining to be completed:

TASK	START DATE	FINISH DATE
Develop ITR Plan and post to Web Site, PCX	June 2007	June 2007
Identify Regional ITR resources and Recommend ITR Plan to PCX	June 2007	
Identify Addt'l ITR team for EN/RE	July 2007	
PCX Approves/Assigns Addt'l ITR Team	July 2007	
Sponsor Approves ITR Plan	Aug 2007	
Review of Models	N/A - standard	
Alternative Formulation Briefing	Anticipate waiver	
Review of Draft Report	October 2006	
Review of Final Report	March 2008	

9.0 PROJECT RISK

The PDT has completed an initial risk assessment associated with this project based upon five factors and rated the project quantitatively among five levels of project risk of failure ranging from low to high (risk score class). The PDT scored each Project Risk Item in the Review Plan Score Guide (Table 9.1) and calculated an overall Average Project Risk Assessment Score. The exact value of the scores were not as important as compared to what risk score class (low, medium or high) the Average Project Risk Assessment Score was classified. Based upon the PDT analysis, the project is low to moderate in risk because it did not receive an overall high risk score.

The PDT considered previous District project experience when making this analysis. No attempt was made to tie this to a national scale of rating. The Project Schedule and Cost were assessed as a low degree of risk if they both remained flexible and a high degree of risk if the Project schedule and cost was fixed. Staff Technical Experience was assessed as a low degree of risk if the staff had a high level of ecosystem restoration experience and a high degree of risk if the staff had a low level of ecosystem restoration experience. The results of the evaluation are tabulated as follows:

Table 9.1 Review Plan Score Guide

Project Risk Item	**Risk Assessment Score (Low Degree to High Degree)**					**Score**
	Low		Medium		High	
Project Complexity	1	2	3	4	5	3
Customer Expectations	1	2	3	4	5	4
Product Schedule/Cost	1	2	3	4	5	4
Staff Technical Experience	1	2	3	4	5	2
Failure Impact and Consequences	1	2	3	4	5	2
Average Project Risk Assessment Score						**3.0 (Low-Medium)**

10.0 REVIEW PLAN

The components of the review plan (ITR only not external peer review) were developed pursuant to the requirements of EC1105-2-408.

10.1 Team Information

The decision document that will be the ultimate focus of the review process is the Jamaica Bay interim Feasibility Report. The purpose of the interim Feasibility Report and associated EA will be to guide the Corps' efforts to restore habitat for the development and protection of ecosystem services and values for not only fish and wildlife, but humans as well. This list provides the points of contact at NAN team members who are available to answer specific technical questions as part of the review process. The list also provides the names and organization of participating outside entities.

District Project Team Members:

MAIN REPORT PRODUCT	STUDY TEAM MEMBERS	REVIEW TEAM MEMBER
Feasibility Report Main Text	Project Planner CENAN-PL-F	All review team members will review this document internally External ITR: TBD
NEPA Documentation	CENAN-PL-E	All review team members will review this document internally External ITR: TBD

Sections	STUDY TEAM MEMBER	REVIEW TEAM MEMBER
Plan Formulation	CENAN-PL-F	NAE
Economics	CENAN-PL-F	NAE
Environmental	CENAN-PL-E	NAE
Cultural Resources	CENAN-PL-E	NAE
Real Estate	CENAN-RE	TBD thru PCX
Hydrology and Hydraulics	CENAN-EN	NAE - TBD thru PCX
Geotechnical/Structural	CENAN-EN	NAE – TBD thru PCX

10.2 Scientific Information

Based upon the self evaluation by the project team, it is unlikely that the USACE report to be disseminated will contain influential scientific information. Influential scientific information is defined by the Office of Management Budget as scientific information the agency reasonably can determine will have or does have a clear and substantial impact on important public policies or private sector decisions. The environmental restoration measures that were identified were evaluated using standard biological and economic processes.

10.3 Timing
The ITR process will re-start upon assessment of Engineering and Real Estate external ITR requirements with the PCX.

10.4 External Peer Review Process
It is not anticipated that external peer review would be required. PCX and vertical team concurrence is required.

10.5 Public Comment
Public involvement is anticipated during the outreach phase between the draft and final feasibility reports. Further public involvement activities have not been scheduled at this time.

10.6 ITR Reviewers [This will be updated accordingly based on project team and MVD negotiations.]
It is anticipated that four to five reviewers total should be available in the following disciplines: hydraulics, economics, ecology, planning, and cost estimating. The reviewer contact information should be stated in Section 10.1 of this review plan. Cost Estimating - as required by HQUSACE, the review will be conducted by Cost Estimating Center of Expertise (NWW).

10.7 External Peer Review Selection
This will be determined conclusively in conjunction with the PCX and vertical team, if at odds with Section 10.4.